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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,003	03/24/2004	Mikio Shiraishi	16869N-111400US	6791

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EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,003

Applicant(s)

SHIRAIISHI ET AL.

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/24/2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa (US 6,657,680) in view of Barrick (US 5,095,606.)

Takizawa teaches in figures 5, 10, and 11 a projection type image display device comprising:

An illumination unit (413);

A light splitting unit (421 and 422) which splits illumination light emitted from said lighting means into a plurality of color components;

A plurality of light valves (44) which modulate each of the split light rays of the plural color components;

A synthesizing unit (45) which synthesizes the modulated light rays outputted from said plural light valves; and

A projection unit (46) which projects and displays the resulting synthesized modulated light;

Wherein said light valves and said synthesizing unit are fixed to each other through support members (83).

Takizawa teaches in column 9 lines 12-15 that the support members (83) are made of transparent resin, however Takizawa does not teach that this polymer is a heat-melting polymer material. Barrick teaches in column 1 lines 10-19 that heat-melting polymer support members (stakes) are commonly used in the electronics industry to join parts together. Barrick teaches in column 2 lines 30-63 a method of binding two parts together by melting the cap of the support member in such a way as to secure the parts together.

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In column 2 line 64 through column 3 line 19, Barrick teaches that his method has the advantage over prior art fastening means that alignment is maintained and less chance of containment from the fastening means spreading to other components of the device.

Given that is desirous in assembly a projection type image display device to maintain alignment between the light valves and synthesizing unit without introducing substantial contaminants, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fastening means of Barrick to fix the light valves to the synthesizing unit of Takizawa.

With regards to applicant's claim 2:

Barrick teaches using heat fusion.

With regards to applicant's claim 3 and 4:

See above with respect to claims 1 and 2 respectively.

With regards to applicant's claim 5:

The plastic frames 81 as well as the fastening means are made of plastic, which as well known in the art is frequently formed by integral injection molding.

With regards to applicant's claim 6:

As shown in figures 3A-3C of Barrick the fastening means is tapered.

With regards to applicant's claims 7 and 8:

As stated in column 2 line 64 through column 3 line 19 one of the advantages of Barrick's method is that alignment is maintained, in order for alignment to be maintained, one must inherently align the two components prior to fixing them via Barrick's method of fusing the heat-melting polymer material.

With regards to applicant's claim 9:

The support member (82) of Takizawa is specified to be made of metal, while the light valve unit (81) of Takizawa is specified to be made of resin, the melting points of the two materials as is well known are considerably different (See applicant's specification page 17 which teaches that one metal commonly used Magnesium alloy has a melting point of 650 degrees Celsius while a common resin used; polycarbonate has a melting point of 160 degrees Celsius, which is a difference of more than 40 degrees. See also column 9 lines 1-33 of Iinuma et al. (US RE38,194) which teaches various materials that can be used for the light valve frame plate (light valve of Takizawa) which includes polycarbonate, and for use as the support member (fixing plate) including aluminum which has a known melting point of about 660 degrees Celsius.)

With regards to applicant's claim 10:

Plate 82 of Takizawa has a groove for fixing a polarizing plate (419, visual angle compensating film which is specified in column 12 lines 30-36 to be made in one

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embodiment of polarization films which together would meet the claimed limitation of a polarizing plate.)

With regards to applicant's claims 11-20:

See above with regards to applicant's claims 1-10 as appropriate.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,540,360 to Furuhashi et al. teaches in figure 12 a prism, frames, and light valve as well as joining members.

US RE37,836 to Fujimori et al. teaches in figure 7 a prism, frames, light valve, as well as screws for joining the components together.

US 6,906,840 to Fujimori et al. teaches in figure 4 prism assembly having the claimed components with the exception of the heat-melting polymer material (although all polymer materials can be considered to be heat meltable at some temperature, Fujimori as well as Takizawa do not specifically teach a method such as that of Barrick for joining two parts with heat-melting polymer materials.)

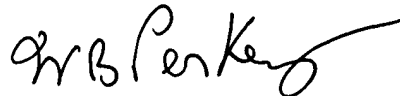
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



William Perkey
Primary Examiner